## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization International Bureau

NIPO 9MP



(43) International Publication Date 11 November 2004 (11.11.2004)

PCT

# (10) International Publication Number WO 2004/096114 A1

- (51) International Patent Classification<sup>7</sup>: A61J 1/00, B65B 3/00, B65D 5/00, A61M 5/32, 5/162
- (21) International Application Number:

PCT/EP2004/004501

- (22) International Filing Date: 26 April 2004 (26.04.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0309705.2

28 April 2003 (28.04.2003) GB

- (71) Applicant (for all designated States except US): GLAX-OSMITHKLINE BIOLOGICALS S.A. [BE/BE]; rue de l'Institut 89, B-1330 Rixensart (BE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): THILLY, Jacques [BE/BE]; GlaxoSmithKline Biologicals s.a., rue de l'Institut 89, B-1330 Rixensart (BE). VANDECASSERIE, Christian [BE/BE]; GlaxoSmithKline Biologicals s.a., rue de l'Institut 89, B-1330 Rixensart (BE).
- (74) Agent: WALKER, Ralph, Francis; GlaxoSmithKline, Corporate Intellectual Property (CN925.1), 980 Great West Road, Brentford Middlesex TW8 9GS (GB).

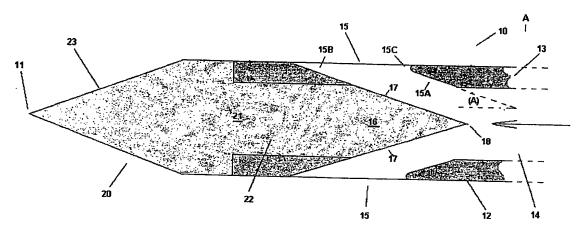
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

### (54) Title: DEVICE FOR INTRODUCING A LIQUID INTO A PHARMACEUTICAL CONTAINER



(57) Abstract: An apparatus for introducing a liquid into a pharmaceutical container such as a vial, having a puncturable closure, comprising a hollow needle (10) with at least one orifice (15) through the needle side wall (13) being oriented to direct liquid flowing along the bore in a direction having a component parallel to the flow direction, with a vent groove (24) in its outer surface. A preferred construction of needle and a process for making it are disclosed.

